

CHAPTER 6 MITIGATION

6.0 INTRODUCTION

Chapter 6 presents SEA's preliminary recommended mitigation. Based on the information available to date, consultations with appropriate agencies, and extensive environmental analysis, SEA considered preliminary environmental mitigation measures to address the environmental impacts of the proposed construction, operation, and maintenance.

On August 28, 2002, the Board granted conditional approval for the Proposed Action under 49 U.S.C. 10502.¹ In granting this approval, however, the Board explained that the project could not be finally approved until the environmental review process, required under NEPA and related laws, is completed and the Board has the opportunity to assess fully the potential environmental effects of the project. The Board made clear in its decision that it would issue a further decision on the entire proposed project following the completion of the EIS process and that no new construction could begin until a final decision approving the construction is issued and has become effective.

6.1 OVERVIEW OF SEA'S APPROACH TO RECOMMENDED MITIGATION

In conducting the environmental review process, SEA has taken the "hard look" that NEPA requires of the environmental consequences of the proposed Bayport Loop Build-Out. Its review included both the construction of new railroad line and the rail operations over the new line and the existing lines. In its environmental review, SEA conducted a thorough and comprehensive analysis of the potential environmental effects associated with the Proposed Action and Alternatives. Chapter 10 and Appendix B provide information on SEA's agency consultation activities.

6.1.1 Limits of the Board's Conditioning Power

The Board has limited authority to impose conditions to mitigate potential environmental impacts. As a government agency, the Board can only impose conditions that are consistent with its statutory authority. Accordingly, any conditions the Board imposes must relate directly to the transaction before it, must be reasonable, and must be supported by the record before the Board. Thus, the Board's practice consistently has been to mitigate only those impacts that result directly from the proposed action. The Board typically does not require mitigation for pre-existing environmental conditions, such as the effects of current railroad operations.

¹ In enacting the ICC Termination Act in 1995, Congress intended to facilitate rail line construction. Congress did so by changing the statutory standard from requiring approval, if the agency finds that a project is consistent with the public convenience and necessity, to requiring approval unless the agency finds that the project is inconsistent with the public convenience and necessity. The Board noted (decision at 18) that "[u]nder the revised statute, proposed rail constructions are to be given the benefit of the doubt." Finance Docket No. 33407, Dakota, Minnesota & Eastern Railroad Corp. Construction Into the Powder River Basin, Decision No. 29823 Surface Transportation Board, December 10, 1998.

SEA notes, however, that CEQ, which oversees the implementation of NEPA, has stated in *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations* that

“[A]ll relevant, reasonable mitigation measures that could improve the project are to be identified, even if they are outside the jurisdiction of the lead agency or the cooperating agencies, and thus would not be committed as part of the RODs of these agencies. Sections 1502.16(h), 1505.2(c). This will serve to alert agencies or officials who can implement these extra measures, and will encourage them to do so. Because the EIS is the most comprehensive environmental document, it is an ideal vehicle in which to lay out not only the full range of environmental impacts but also the full spectrum of appropriate mitigation.” [46 FR 18032]

Therefore, this chapter will identify the regulatory requirements that other agencies may impose on the Proposed Action and Alternatives that could mitigate the environmental effects.

6.1.2 Voluntary Mitigation and Negotiated Agreements

SEA encourages Applicants to propose voluntary mitigation. In some situations, voluntary mitigation might replace mitigation measures that the Board might otherwise impose or it could supplement mitigation that the Board might impose. Because Applicants gain a substantial amount of knowledge about the issues associated with a proposed right-of-way during project planning and because they consult with regulatory agencies during the permitting process, they are often in a position to offer relevant voluntary mitigation. For this Proposed Action and Alternatives, the Applicants have proposed voluntary mitigation, which is discussed further below.

As an Alternative to the mitigation that the Board would unilaterally impose on Applicants (notwithstanding mitigation required by other regulatory agencies that may have jurisdiction over potentially affected resources), SEA encourages the Applicants to negotiate mutually acceptable agreements with affected communities and other government entities to address potential environmental impacts, if appropriate. Negotiated agreements could be with neighborhoods, communities, counties, cities, regional coalitions, states, and other entities. If the Applicants submit any negotiated agreements with communities or other entities to the Board, the Board would then require compliance with the terms of any such agreements as environmental conditions in any final decision approving the Proposed Action and Alternatives. These negotiated agreements would supersede any environmental conditions for that particular community or other entity that the Board would otherwise impose.

6.1.3 Preliminary Nature of Environmental Mitigation

SEA emphasizes that the recommended environmental mitigation measures in the Draft EIS are preliminary and it invites public and agency comments on these proposed environmental mitigation measures. In order for SEA to assess the comments effectively, it is critical that the public be specific regarding any desired mitigation and the reasons why the suggested mitigation would be appropriate.

SEA will make its final recommendations on environmental mitigation to the Board in the Final EIS after considering all public comments on the Draft EIS. The Board will then make its final decision regarding this project and any environmental conditions it might impose. In making its decision, the Board will consider the Draft EIS, the Final EIS, public comments, and SEA's final environmental mitigation recommendations.

6.2 PRELIMINARY ENVIRONMENTAL MITIGATION MEASURES

For the environmental resource areas discussed below, if SEA concluded that the impacts are negligible, no mitigation is warranted. The following discussion does not address the No-Action Alternative because it would result in no change in impacts from those already occurring. References to the Proposed Action and Alternatives include the No-Build Alternative.

6.2.1 Rail Operations and Rail Operations Safety

SEA has determined that the Proposed Action and Alternatives would have a negligible effect on rail operations and safety. Section 3.1.1 discusses the regulations governing rail operations and safety. The Applicants would have to comply with the regulations implemented and enforced by the FRA.

6.2.2 Hazardous Materials Transportation Safety

SEA has determined that the Proposed Action and Alternatives would have a negligible effect on hazardous materials transportation safety. Section 3.2.1 discusses the regulations governing the transport of hazardous materials and the emergency response regulations. That section also discusses BNSF's and UP's hazardous materials transportation practices and the emergency response infrastructure of the Houston area. The Applicants would have to comply with the regulations implemented and enforced by the various agencies having jurisdiction over the transportation of hazardous materials.

6.2.3 Pipeline Safety

SEA has determined that the Proposed Action and Alternatives would have a negligible effect on pipeline safety. Section 3.3.1 discusses the regulations governing pipeline safety. The Applicants would have to comply with the regulations implemented and enforced by the OPS and other agencies.

6.2.4 Grade Crossings Delay and Safety

SEA has determined through its analysis and consultation with TxDOT that the Proposed Action and Alternatives would have a negligible effect on grade crossings delay and safety. Section 3.4.1 discusses the regulations governing grade crossing safety. The Applicants would have to comply with the regulations implemented and enforced by TxDOT and would have to work with TxDOT to obtain permits for the new grade crossings. The Applicants would have to coordinate with TxDOT and Harris County in order to minimize traffic delay during grade crossing construction.

6.2.5 Noise and Vibration

SEA has determined that the Proposed Action and Alternatives would have no adverse effect on sensitive receptors because the increase in noise is below 3 dBA. Section 3.5.1 discusses the regulations governing railroad noise.

6.2.6 Climate and Air Quality

SEA has determined that the Proposed Action and Alternatives would have a negligible effect on climate and air quality. Section 3.6.1 discusses the regulations governing air quality. The Applicants would have to comply with applicable Federal and state air quality regulations. The Applicants and UP have a pre-existing voluntary agreement with USEPA Region VI and HGAC to reduce air emissions in the Houston area beyond what the regulations require.

6.2.7 Water Resources

SEA has determined that the Build Alternatives would have negligible effects on groundwater and floodplains, and moderate effects on surface water and wetlands during construction. Effects on surface water and wetlands would be negligible during operation and maintenance. The No-Build Alternative would have no impact to groundwater and floodplains and a negligible effect on surface water and wetlands. Section 3.7.1 discusses the applicable regulations for protection of groundwater and floodplains. SEA expects that surface water and wetlands impacts would be adequately mitigated by the relevant regulatory programs, including the Section 404 Permit and Section 10 Permit from the USACE, and the Section 401 Water Quality Certificate from the TCEQ. In addition, SEA has determined that the Applicants' proposed voluntary mitigation would provide adequate mitigation for the surface water and wetland impacts. The project would be designed in accordance with the applicable standards of the floodplain program administered by Harris County and the drainage and hydrology standards required by the Engineering Division and Flood Control Division of the Harris County Public Infrastructure Department. Easements would have to be secured from the Texas GLO for any crossing of state-owned waterways. The Texas GLO would also issue a concurrence determination regarding consistency with the Texas Coastal Management Program as required by the CZMA. The Applicants would have to obtain a Section 9 Bridge Permit from the USCG for construction of a new rail bridge over Taylor Bayou.

6.2.8 Biological Resources

SEA has determined that the Build Alternatives would have moderate effects on plant communities and negligible effects to EFH. The No-Build Alternative would have negligible effects on those resources. SEA has determined that the Applicant's proposed voluntary mitigation would provide more than adequate mitigation for the impacts from the Build Alternatives. SEA and the USFWS determined that the Proposed Action and Alternatives would have no effect on the endangered Texas prairie dawn.

6.2.9 Topography Geology and Soils

SEA has determined that the Build Alternatives would have a negligible effect on topography, geology, and soils. Section 3.9.1 discusses the applicable regulations for protection of these resources.

6.2.10 Land Use

SEA has determined that the Build Alternatives would have a negligible effect on land use. Section 3.10.1 discusses the regulations applicable to land use.

6.2.11 Socioeconomics

SEA has determined that the Build Alternatives would have a negligible effect on socioeconomics.

6.2.12 Energy

SEA has determined that the Proposed Action and Alternatives would have a negligible effect on energy.

6.2.13 Hazardous Materials/Waste Sites

SEA has determined that the Build Alternatives would have a negligible effect on hazardous materials/waste sites. Section 3.13.1 discusses the applicable regulations.

6.2.14 Cultural Resources

SEA and the Texas Historical Commission have determined that the Build Alternatives would have no adverse effect on cultural resources. Section 3.14.1 discusses the applicable regulations for the protection of cultural resources.

6.2.15 Navigation

SEA has determined that the Build Alternatives would have a negligible effect on navigation. Section 3.15 discusses the applicable regulations.

6.2.16 Environmental Justice

SEA has determined that the Proposed Action and Alternatives would have a negligible effect on environmental justice populations.

6.3 APPLICANTS' VOLUNTARY MITIGATION MEASURES

On August 6, 2002, the Applicants submitted their proposed voluntary mitigation measures to SEA. The Applicants stated that although they continue to believe that the proposed project is limited in scope and does not pose significant impact to the Houston area, they are sensitive to the concerns of local communities and interested agencies. In consultation with local interests, the Applicants developed the voluntary mitigation measures, which are presented below, for the Board to consider in issuing its final decision. The Applicants stated that the voluntary mitigation measures offer substantial mitigation that should address many of the concerns that have been raised in this proceeding. In the material presented below, the Applicants refer to themselves as the Petitioners.

SAFETY

Grade-Crossing and Speed

1. Petitioners shall consult with appropriate Federal, State, and local transportation agencies to determine the final design and other details of the grade-crossing warning devices. Implementation of all grade-crossing warning devices on public roadways shall be subject to the review and approval of the Texas Department of Transportation (TxDOT) and Harris County (see Table 1). Petitioners shall consult with appropriate Federal, State, and local transportation agencies to determine the final design of grade separations on the new rail line.
2. Petitioners will limit the speed of the trains on the new line to 20 miles per hour.

Table 1 – Proposed Highway/Rail Grade-Crossing Mitigation

Roadway	Type of Crossing	Warning Device
Space Center Boulevard	Grade-Separated	N/A
Red Bluff Road	Grade-Separated	N/A
Bay Area Boulevard	At-Grade	Active Warning Devices
SH 146 accesses (2)	At-Grade	Active Warning Devices
SH 146	Grade-Separated (existing)	N/A
Port Road	At-Grade	Active Warning Devices
Old SH 146	At-Grade	Active Warning Devices

Emergency Response

3. At least one month prior to initiation of construction activities in the area, Petitioners shall provide the information described below regarding project-related construction of the new rail line, as well as any additional information, as appropriate, to fire departments and the Local Emergency Planning Commissions (LEPCs) for communities within the project area.
 - The schedule for construction throughout the project area, including the sequence of construction of public grade crossings and approximate schedule for these activities at each crossing.
 - A toll-free number for Petitioners' contact, who shall be available to answer questions or attend meetings for the purpose of informing emergency-service providers about the project construction and operation.
 - Revisions to this information, including changes in construction schedule, as appropriate.
4. Before the start of operations, Petitioners shall contact the LEPCs to provide them with information concerning the proposed operations to allow the LEPCs to incorporate the information into local response plans.
5. For each of the public grade crossings on the new and existing rail line, Petitioners shall provide and maintain permanent signs prominently displaying both a toll-free telephone number and a unique grade-crossing identification number in compliance with Federal Highway Regulations (23 CFR Part 655). The toll-free number shall be answered 24 hours per day by Petitioners' personnel. At the Bay Area Boulevard crossing and the crossing of the northbound on-ramp to SH 146, where Petitioners' right-of-way (ROW) is close to another rail carrier's crossing, Petitioners shall coordinate with the other rail carrier to establish a procedure regarding reported accidents and grade-crossing device malfunctions.

Hazardous Materials Handling Issues

6. Prior to initiating any project-related construction activities, Petitioners shall develop a spill prevention plan for petroleum products or other hazardous materials during construction activities. At a minimum, the spill prevention plan shall address the following:
 - Definition of what constitutes a reportable spill.
 - Requirements and procedures for reporting spills to appropriate government agencies.
 - Methods of containing, recovering, and cleaning up spilled material.
 - Equipment available to respond to spills and location of such equipment.

- List of government agencies and Petitioners' management personnel to be contacted in the event of a spill.

In the event of a reportable spill, Petitioners shall comply with their spill prevention plan and applicable Federal, state, and local regulations pertaining to spill containment and appropriate clean-up.

7. Petitioners shall incorporate the new rail line into the existing BNSF Emergency Response Process.
8. Petitioners shall continue the ongoing efforts with community officials to identify the public emergency response teams located in the project area and shall provide, upon request, hazardous material training.
9. Petitioners shall continue ongoing efforts with NASA to facilitate emergency response plans for NASA facilities located in the vicinity of the new rail line.
10. In accordance with Petitioners' System Emergency Response Plan, Petitioners shall make the required notifications to the appropriate Federal and state environmental agencies in the event of a reportable hazardous materials release. Petitioners shall work with the appropriate agencies such as the USFWS, TPW, and the TCEQ to respond to and remediate releases with the potential to affect wetlands or wildlife habitat(s), particularly those of Federally threatened or endangered species.

NATURAL/BIOLOGICAL RESOURCES

11. Subject to coordination with the USACE, TPW, and other appropriate Federal and state agencies, Petitioners shall negotiate for the purchase of approximately 24 acres of bottomland hardwood habitat for conservation. This habitat will be acquired to mitigate for the impacts to riparian habitats of Armand Bayou and Big Island Slough at a ratio of 2 to 1 for the approximately 12 acres of bottomland hardwoods, and a ratio of 3 to 1 for the approximately 0.5 acres of gilgai wetland depressions.
12. To compensate for impacts to non-jurisdictional isolated wetlands associated with remnant coastal prairie habitat along the new line, Petitioners shall purchase 24 acres of coastal prairie habitat including five to six acres of isolated wetlands for conservation and open space.

Potential isolated prairie wetland impacts vary between approximately one acre for Alignments 1 and 1C to six acres for Alignments 2B and 2D. This mitigation will also serve to protect the remnant coastal prairie habitat and Texas prairie dawn (*Hymenoxys texana*) populations identified by the Petitioners (see Exhibit 1).

13. Petitioners have modified Alignments 1/1C and 2B/2D in the west portion of the project area to avoid all known populations of the Texas prairie dawn. Before construction,

Petitioners shall temporarily fence the Texas prairie dawn sites to prevent construction-related impacts.

14. If either Alignment 2B or 2D is selected for construction, Petitioners will survey the route to determine if the northern caracara (*Caracara cheriway*) is nesting along the ROW. Should a northern caracara nest be located, Petitioners will implement appropriate measures to reduce impacts prior to new rail line construction or the nest site will be removed during the non-nesting period.
15. Petitioners will implement the current BNSF noxious weed control program during construction and operation of the new line. All herbicides used by BNSF shall have been approved by the Environmental Protection Agency (EPA).
16. During construction, temporary barricades, fencing, and/or flagging will be used in sensitive habitats and potential Texas prairie dawn habitat, as identified in Exhibit 2, to contain project-related impacts to the area within the construction ROW. Staging areas will be located in previously disturbed sites and not in sensitive habitat areas such as bottomland hardwood or remnant coastal prairie (see Exhibit 2).
17. If any new populations of Texas prairie dawn are identified within the construction area, Petitioners shall consult with USFWS and TPW.
18. Petitioners shall, to the extent practicable, revegetate the bottom and sides of the drainage ditches using natural recruitment from the native seed sources in the stockpiled topsoil.

WATER RESOURCES/WETLANDS

19. To minimize impacts to Taylor Bayou, Petitioners have changed the preferred alignment from Alignment 1 near SH 146 to Alignment 1B at Port Road in order to avoid impacts to 1.4 acres of tidal wetlands associated with Taylor Bayou (see Exhibit 2).
20. Subject to coordination with the USACE, Harris County, Armand Bayou Nature Center, TPW, and National Marine Fisheries Service (NMFS), Petitioners shall address slope conditions and perform clean-up of areas impacted by debris historically dumped. This proposed effort will develop 0.4 acres of marsh wetlands east of Taylor Bayou to mitigate for impacts to approximately 0.35 acres of essential fish habitat adjacent to Taylor Bayou (see Exhibits 3A and 3B).
21. In the case where there is a potential for the railroad drainage ditch to influence wetland hydrology, Petitioners shall construct low permeability clay berms (wetland berms as depicted in Exhibit 4) adjacent to the drainage channels that would be proximal to the isolated wetlands and the Texas prairie dawn populations. These berms would minimize the impact to surface water drainage from the proposed drainage ditch (see Exhibit 4).
22. Petitioners shall install permanent rock check dams within their parallel drainage ditches within 1,000 feet of perennial waters to provide stormwater retention and filtration.

Petitioners shall maintain drainage ditches as permanent vegetated swales to provide stormwater retention and treatment. Removal of accumulated sediments shall be conducted only as necessary to maintain stormwater retention capacity and function (see Exhibit 5).

23. To minimize sedimentation into streams and waterways during construction, Petitioners shall use best management practices, such as silt screens and straw bale dikes, to minimize soil erosion, sedimentation, runoff, and surface instability during project-related construction activities. Petitioners shall disturb the smallest area possible around any streams and shall conduct reseeded efforts to ensure proper revegetation of disturbed areas as soon as practicable following project-related construction activities.
24. In order to control erosion, Petitioners shall establish staging and lay down areas for project-related construction material and equipment at least 300 feet from jurisdictional waters and in areas that are not environmentally sensitive. Petitioners shall not clear any vegetation between the staging area and the waterway or wetlands. To the extent practicable, areas with non-jurisdictional isolated waters will not be used for staging and lay down and will only be impacted when necessary for construction. When project-related construction activities, such as culvert and bridgework, require work in streambeds, Petitioners shall conduct these activities, to the extent practicable, during low-flow conditions.
25. During construction, Petitioners shall require all contractors to conduct daily inspections of all equipment for any fuel, lube oil, hydraulic, or antifreeze leaks. If leaks are found, Petitioners shall require the contractor to immediately remove the equipment from service and repair or replace it.
26. Petitioners shall design all project-related drainage crossing structures to pass a 100-year flood. Petitioners shall construct the new rail line in such a way as to maintain current drainage patterns to the extent practicable and not result in new drainage of wetlands.
27. Petitioners shall coordinate with the TPW and Harris County to establish a mowing and maintenance plan for the railroad drainage ditches which will balance water quality benefits with the storm water flow characteristics of the ditches.
28. Petitioners shall employ best management practices to control turbidity and disturbance to bottom sediments during project-related construction of Petitioners' bridge over Taylor Bayou.
29. Petitioners shall ensure that any herbicides used in ROW maintenance to control vegetation are approved by the EPA and are applied by licensed individuals who shall limit application to the extent necessary for rail operations. Herbicides shall be applied so as to prevent or minimize drift off of the ROW onto adjacent areas.

30. Petitioners shall coordinate with the local Floodplain Administrators (City of Houston, City of Pasadena, and Harris County Flood Control District) to ensure that new project-related stream and floodplain crossings are appropriately designed to minimize impacts.
31. During construction, Petitioners shall prohibit project-related construction vehicles from driving in or crossing streams at other than established crossing points.
32. Petitioners shall, to the extent practicable, ensure that any fill placed below the ordinary high water line of wetlands and streams is appropriate material selected to minimize impacts to the wetlands and streams. All stream crossing points shall be returned to their pre-construction contours to the extent practicable and the crossing banks will be reseeded or replanted with native species immediately following project-related construction.
33. Petitioners shall obtain all Federal permits, including the Clean Water Act Section 404 and Rivers and Harbors Act of 1899 Section 10 permits, required by the USACE for project-related encroachment of jurisdictional waters of the U.S., including wetlands, prior to initiation of any project-related construction.
34. Petitioners shall obtain a National Pollutant Discharge Elimination System (NPDES) stormwater discharge permit from EPA for project-related construction activities.
35. Petitioners shall obtain a Section 9 Bridge Permit from the U.S. Coast Guard for any project-related activities for construction of new rail bridges over Armand Bayou and Taylor Bayou.

LAND USE

General Land Use

36. Land areas that are directly disturbed by Petitioners' project-related construction and are not owned by the Petitioners (such as access roads, haul roads, and crane pads) shall be restored to their original condition, as may be reasonably practicable, upon completion of project-related construction.
37. Petitioners shall require contractors to dispose of waste generated during project-related construction activities in accordance with all applicable Federal, State, and local regulations.

Community Outreach

38. Prior to initiation of construction activities related to this project, Petitioners shall establish a Community Liaison to consult with affected communities, businesses, and agencies; develop cooperative solutions to local concerns; be available for public meetings; and conduct periodic public outreach. Petitioners shall establish a Community Liaison to consult with businesses and agencies for a period of one year following start-

up of operations on the new rail line. Petitioners shall provide the name and phone number of the Community Liaison to mayors and other appropriate local officials in each community through which the new rail line passes.

39. Petitioners shall continue their ongoing community outreach efforts by maintaining, throughout the period of construction of the new line, a website about the project.

Residential

40. Petitioners' project-related construction vehicles, equipment, and workers shall not access work areas by crossing residential properties without the permission of the property owners.
41. In the unlikely event of any inadvertent damage, Petitioners shall work with affected landowners to appropriately redress any damage to each landowner's property caused by Petitioners' project-related construction activities.

Business and Industrial

42. Petitioners' project-related construction vehicles, equipment, and workers shall not access work areas by crossing business or industrial areas, including parking areas or driveways, without advance notice to the business owner.
43. In business and industrial areas, Petitioners' project-related equipment and materials shall be stored in established storage areas or on Petitioners' property. Parking of Petitioners' equipment or vehicles, or storage of materials along driveways or in parking lots, is prohibited unless agreed to by the property owner.
44. Petitioners shall work with affected businesses or industries to appropriately redress project-related construction activity issues affecting any business or industry.
45. To the extent practicable, Petitioners shall ensure that entrances and exits for businesses are not obstructed by project-related construction activities, except as required to move equipment.

State Lands

46. Petitioners shall consult with the General Land Office (GLO) of Texas and TPW to coordinate an Easement Agreement for crossing State-owned waters, including Armand Bayou Coastal Preserve and Taylor Bayou.

Federal Lands

47. Petitioners shall coordinate with NASA on an appropriate design for crossing NASA's private roadway leading to Ellington Field to ensure large, oversized objects may cross the rail line without unreasonable interference.

Utility Corridors

48. Petitioners shall make reasonable efforts to identify all utilities that are reasonably expected to be materially affected by the proposed construction within its existing ROW or that cross its existing ROW. Petitioners shall notify the owner of each such utility identified prior to project-related construction activities and coordinate with the owner to minimize damage to utilities. Petitioners shall also consult with utility owners to design the rail line so that utilities are protected during project-related construction activities.
49. Petitioners will use the services of a qualified pipeline engineering firm that is familiar with the project area to assist in the identification of the various pipeline crossings and to assist in the design of crossings as necessary for project-related construction activities.

GEOLOGY AND SOILS

50. Petitioners shall limit ground disturbance to only the areas necessary for project-related construction activities.
51. During project-related earthmoving activities, Petitioners shall remove topsoil and segregate it from subsoil. Petitioners shall also stockpile topsoil for later application during reclamation of disturbed areas along the ROW. Petitioners shall place the topsoil stockpiles in areas that would minimize the potential for erosion and use appropriate erosion control measures around all stockpiles to prevent erosion.
52. Petitioners shall commence reclamation of disturbed areas as soon as practicable after project-related construction ends along a particular stretch of rail line. The goal of reclamation shall be the rapid and permanent reestablishment of native ground cover on disturbed areas. If weather or season precludes the prompt reestablishment of vegetation, Petitioners shall use measures such as mulching or erosion control blankets to prevent erosion until reseedling can be completed.
53. Prior to initiating project-related construction activities, Petitioners shall consult with the local offices of the Natural Resource Conservation Service (NRCS), TPW, and TxDOT to develop an appropriate plan for restoration and revegetation of the disturbed areas (including appropriate seed mix specifications).
54. During construction activity, Petitioners shall take reasonable steps to ensure contractors use fill material appropriate for the project area.

RECREATION

55. Petitioners shall coordinate with the U.S. Coast Guard and TPW to provide adequate clearances for navigation of recreational boats on the Armand Bayou and Taylor Bayou at the location of any project-related construction of the Petitioners' bridge across the bayous.

56. During construction, Petitioners shall install warning devices to notify boaters of project-related bridge construction activities and the location of an Alternative navigation route.
57. To minimize impacts where the new San Jacinto Rail Limited (SJRL) line crosses a proposed bike trail at Red Bluff Road, Petitioners shall coordinate with the City of Pasadena to modify the bike trail either by rerouting it under the Armand Bayou bridge or by building a crossing for the bike trail as part of the Red Bluff overpass.
58. If Petitioners build any variations of Alignment 2, Petitioners will work with the City of Pasadena to design and construct a new entrance to Pasadena's Golf Course to improve the ingress and egress of the entrance (see Exhibit 6).

TRANSPORTATION

59. To the extent practicable, Petitioners shall confine all project-related construction traffic to a temporary access road within the ROW or established public roads. Where traffic cannot be confined to temporary access roads or established public roads, Petitioners shall make necessary arrangements with landowners to gain access from private roadways. The temporary access roads shall be used only during project-related construction. Any temporary access roads constructed outside the rail line ROW shall be removed and restored upon completion of construction unless otherwise agreed to with the landowners.
60. Petitioners shall work with Harris County to build grade-separated crossings at Space Center Boulevard and Red Bluff Road. The Space Center Boulevard grade separation is contingent upon approval of the Federal Aviation Administration (FAA).
61. If Petitioners build any variation of Alignment 1, Petitioners shall install power switches at Graham Siding to minimize traffic congestion on the existing Union Pacific Railroad (UP) track (GH&H) and major highway intersections, especially around Ellington Field.
62. If Petitioners build any variation of Alignment 2, Petitioners shall install a power switch at the turnout on the GH&H to minimize traffic congestion on the existing UP track and major highway intersections.
63. Subject to the acquisition of trackage rights or trackage rights modifications that may be needed, BNSF will revise its routing for Bayport traffic flows between Bayport Rail Terminal through the City of Houston's East End in order to:
 - Bypass and avoid use of New South Yard;
 - Avoid reverse movements of Bayport traffic into and at T&NO Junction which affect local traffic at the intersection of Griggs and Mykawa Roads; and
 - Divert Bayport traffic away from a concentrated area of at-grade crossings on the East Belt between New South Yard and Polk Street (including avoidance of East Belt road crossings at Telephone Road, Lawndale, Pease, Leland, Bell, Clay and Polk Streets).

Outbound trains containing Bayport traffic would run from the Bayport Rail Terminal to the GH&H line, interchanging to the East Belt trackage near Tower 85, for movement to Dayton Yard. Inbound trains destined to the Bayport Rail Terminal from Dayton Yard would operate over the same route.

AIR QUALITY

64. To minimize fugitive dust emissions created during project-related construction activities, Petitioners shall implement appropriate fugitive dust suppression controls, such as spraying water or other approved measures. Petitioners shall also regularly operate water trucks on haul roads to reduce dust.
65. Petitioners shall continue to remain a party to and continue participation under Statement of Principles – Houston Galveston Ozone Non-attainment Area Railroad Program, December 4, 2000, addressing air emissions from train operations.
66. Petitioners shall work with their contractors to make sure that construction equipment is properly maintained and that mufflers and other required pollution-control devices are in working condition in order to limit construction-related air emissions.

NOISE AND VIBRATION

67. Petitioners shall work with their construction contractors to minimize, to the extent practicable, construction-related noise disturbances near any residential areas.
68. Petitioners shall use continuously welded rail (CWR) and rail lubricants, as appropriate, on the newly constructed line in order to reduce wheel/rail wayside noise.
69. Petitioners shall work with the community and Harris County to install quad gates, or other supplementary safety measures, in order to provide the level of warning necessary to allow the community to request a waiver from Federal Railroad Administration (FRA) of the requirement to sound the horn if the crossing of Space Center Boulevard cannot be grade separated.
70. Petitioners shall maintain project-related construction and maintenance vehicles in good working order with properly functioning mufflers to control noise.

CULTURAL/PALEONTOLOGICAL RESOURCES

71. Although no significant impacts should occur to cultural resources based on pedestrian surveys, the Petitioners shall inform construction supervisors of the importance of protecting archaeological resources, graves, and other cultural resources and how to recognize and treat the resources.

ENVIRONMENTAL JUSTICE

72. Petitioners shall continue to participate as a member of the East End Mobility Task Force to review transportation impacts on East End neighborhoods.
73. Petitioners shall continue ongoing efforts with community officials to identify elementary, middle, and high schools within 0.5 miles of the rail line over which BNSF will operate between the Bayport Industrial District and Tower 30. Petitioners shall provide, upon request, informational materials concerning railroad safety to such identified schools.

MISCELLANEOUS

74. During project-related construction of at-grade crossings, when practicable, Petitioners shall provide for detours and associated signage, as appropriate, or maintain at least one open lane of traffic at all times to allow for the quick passage of emergency and other vehicles.
75. In undertaking project-related construction activities, Petitioners shall use practices recommended by American Railway Engineering and Maintenance of Way Association (AREMA) and recommended standards for track construction in the AREMA Manual for Railway Engineering. Petitioners shall maintain the track and provide for track inspection in compliance with FRA requirements under 49 CFR Part 213.

MONITORING AND ENFORCEMENT

76. With respect to the habitat restoration discussed in conditions 11, 12, and 20, Petitioners shall submit to the Section for Environmental Analysis annual reports on the status of its mitigation during the period of construction through the first three growing seasons or until satisfactory restoration has occurred.

Exhibit 1
Remnant Coastal Prairie Habitat

Exhibit 2
Sensitive Habitats

Exhibit 3a
Existing Conditions - Taylor Bayou

Exhibit 3b
Proposed Essential Fish Habitat Mitigation at Taylor Bayou

Exhibit 4
Wetland Berm Cross-Section

Exhibit 5
In-Channel Stormwater Retention/Post-Construction TSS Control for Use
Within 1,000 Feet of Perennial Waters

Exhibit 6
Golf Course Entrance Drive